

Remarks

Claims 1-10 were objected because of informalities. Claims 1, 3, and 5-10 were rejected under 35 U.S.C. §102(b) as being anticipated by Neuschotz (US 3,035,797). Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Neuschotz. Claim 2 was deemed to allowable if rewritten in independent form to include all limitations of claim 1 and to overcome the objections to claim 1.

In this response, claims 1 and 4 have been amended and claims 11-14 have been added. Upon entry of the amendments claims 1-14 will be pending.

Reconsideration of the application based on the following is respectfully requested

Claim Objections:

Claims 1-10 were objected because of informalities. Claims 1 and 4 have been amended to add the term “flexible” in lines 4 and 5 of claim 1, to replace the term “the” with “said” in line 11 of claim 1, and to delete the term “to” in claim 4 as suggested by the Examiner.

Withdrawal of the objections to claims 1-10 is respectfully requested.

Rejection under 35 U.S.C. §102(b):

Claims 1, 3, and 5-10 were rejected under 35 U.S.C. §102(b) as being anticipated by Neuschotz (US 3,035,797).

Neuschotz describes a detachable connector for a fuel tank or other fluid containing cell of an aircraft. The detachable connector includes a tubular fluid tight interconnector 14 that extends between a pair of fuel cells 11. Interconnector 14 is detachably connected at each end to cells 11 using a pair of connecting assemblies 17, each including connecting ring 20, rigidly attached to (or integral with) interconnector 14 and a second ring 21 permanently attached to cell 11. Rings 20 and 21 are held together using a series of circularly spaced latches 22. Column lines 30-69 and Figs. 1 and 2.

Independent claim 1 recites a connection arrangement for detachably connecting a first flexible tank and a second flexible tank of an aircraft having, among other elements:

a first tubular connecting element attached to the first flexible tank;

a second tubular connecting element attached to the second flexible tank, one of the first and the second tubular connecting elements being telescopically and slidably inserted into the other of the first and second tubular connecting elements and being detachably connected to the other of the first and second tubular connecting elements by the latching device. . .

Claim 1 has been amended to clarify that one of the first and second tubular connecting elements is telescopically and slidably inserted into the other in addition to be connected to the other by the latching device. Support for the added features is found in the specification, for example, at paragraph [0023] and in Fig. 2.

Applicants respectfully submit that Neuschotz does not disclose first and second tubular connecting elements, wherein each tubular connecting element is attached to the respective tank and wherein one is telescopically and slidably inserted into the other. On the contrary, Neuschotz discloses a connection arrangement wherein each tank comprises a ring or fitting 21 attached to the tank (see Neuschotz, e.g. ring 21 in Fig. 2; column 2, lines 62 to 64), and an interconnector 14 detachably connected at each end 20 to the rings 21. The rings or fittings 21 as disclosed in Neuschotz cannot be connecting elements as recited in claim 1, since they are not detachably connected to one another as recited in claim 1.

The Examiner, however, has apparently applied the language of claim 1 to Neuschotz by deeming ring 21 of Neuschotz to be the first tubular connecting element, and a combination of multiple components (rings 21 and 20) as the second tubular connecting element. Though not stated, the Examiner presumably includes interconnecting member 14 as part of the second connecting member. However, even applying the language of claim 1 in that manner, Applicants submit that Neuschotz still does not describe all of the features of claim 1.

First, Applicants submit that ring 21 is not a “tubular” element as that term is properly understood in claim 1. As is clear from the present application and drawings, the “tubular” connecting element is an elongated element, consistent with the definition of “tube” in Miriam Webster Online dictionary of “a hollow elongated cylinder; *especially* : one to convey fluids”. The ring 21 in Neuschotz, by contrast, is merely a circular ring that is not elongated, and therefore not tubular. See Fig. 2, and column 2, line 59 to column 3, line 51.

Second, Applicants submit that neither of the identified elements of Neuschotz (ring 21 on the one side and combination of ring 21-interconnector 14-ring 20 on the other side) are telescopically and slidably inserted into the other as recited in claim 1. On the contrary, portion 20 of interconnector 14 includes a conical surface that abuts against a mating conical surface of ring 21. The conical abutment of the two parts precludes a sliding, telescopic insertion as required by independent claim 1.

Moreover, as discussed below with respect to claim 4, these features are also not suggested by Neuschotz and provide for important advantages not recognized by Neuschotz.

Accordingly, because Neuschotz fails to describe the features of two tubular connecting elements slidably and telescopically inserted into one another, withdrawal of the rejection to claims 1, 3, and 5-10 is respectfully submitted.

Rejections under 35 U.S.C. §103(a):

Claim 4 was rejected under 35 U.S.C. §103(a) as being unpatentable over Neuschotz. Claim 4 depends from claim 1 and includes all of its elements.

Applicants respectfully submit that, in addition to not describing the features of two tubular connecting elements slidably and telescopically inserted into one another, Neuschotz also does not suggest those features. On the contrary, Neuschotz describes two ring fittings 21 at each of the tanks 11 that are adapted to detachably connect to each end of a third component, interconnector 14. Though the Examiner appears to deem interconnector 14 as part of the second connecting element, the technical teaching of Neuschotz is clearly for at least three separate parts (two tank fittings 21, and an interconnector 14 having rings 20 at each end that may be integrally connected to interconnector 14) and two detachable connections. Moreover, each of the two connections made between interconnector 14 and the rings 21 is a conical abutment connection and not a sliding telescopic insertion.

There is no suggestion within Neuschotz for using two elongated tubular members (instead of one ring and one multi-component tubular assembly). Nor is there any suggestion for replacing the conical abutment connection with a sliding telescopic insertion connection. Moreover, those inventive features of independent claim 1 enable the realization of important

advantages not recognized in Neuschotz. First, a telescopic insertion connection saves space because it allows for significantly more axial overlap of the connecting elements than a conical abutment connection. As discussed in the specification, economy of space of particular importance for aircraft fuel tank connections. Second, because of the space saved by the telescopic insertion connection, both connecting elements can be elongated tubular elements without requiring more space for the connection. Third, the telescopic insertion and the elongated enables a single, robust latching mechanism to be used between two tanks. Neuschotz requires two detachable connections between each pair of tanks (at each end of interconnector 14), thus requiring two coupling operations for connecting two tanks together. There is no suggestion that a different connecting arrangement (i.e. the telescopic coupling of two elongated connecting elements) that would enable a single coupling operation for connecting two tanks.

Withdrawal of the rejection to claim 4 under 35 U.S.C. §103 is respectfully requested.

New Claims 11-13:

New claim 11 adds the feature that the latching device is arranged at one of the tubular connecting elements. Support for this new claim can be found in the specification, e.g. at paragraph [0020]. Claim 12 has been added to recite the sealing element of claim 10 is an O-ring. Support for this amendment can be found in the specification at paragraph [0023] and Fig. 2 (O-ring 19). Claim 13 adds the feature that each of the first and second tubular connecting elements is integrally formed as a single component. Support for new claim 13 is found, for example, at paragraph [0010] and in Fig. 2. Applicants respectfully submit that claim 13 patentably differs from Neuschotz for the additional reason that interconnector 14 and ring 21 are not integrally formed as a single component.

It is respectfully submitted that new claims 11-13 are drawn to allowable subject matter, and allowance of claims 11-13 is respectfully requested.

Allowable Subject Matter

Claim 2 was deemed to allowable if rewritten in independent form to include all limitations of claim 1 and to overcome the objections to claim 1.

Applicants have rewritten claim 2 in independent form as suggested by the Examiner as new claim 14. Claim 14 includes all of the limitations of original claims 1 and 2 and with the informalities objected to by the Examiner corrected.

Allowance of claim 14 is respectfully requested.

CONCLUSION

The present application is respectfully submitted as being in condition for allowance and applicants respectfully request such action.

Respectfully submitted,

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